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THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

OF THE

VILLAGE OF BLYTH

COUNTY OF HURON

1964

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VILLAGE OF BLYTH - 1964
COUNTY OF HURON

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Report on water pollution
survey of the village of Blyth,
county of Huron.
80749

R E P O R T

on

WATER POLLUTION SURVEY

of the

VILLAGE OF BLYTH

COUNTY OF HURON

Date of Sampling : - July 15, 1964.

Division of Sanitary Engineering

R E P O R T

ONTARIO WATER RESOURCES COMMISSION

INTRODUCTION

The purpose of this survey was to determine the nature and extent of both industrial and domestic sources of pollution within the Village of Blyth, County of Huron. Such surveys are carried out routinely and upon request by the Division of Sanitary Engineering of the Ontario Water Resources Commission as a basis for evaluating water supply and sewage treatment requirements.

I GENERAL

The Village of Blyth is located on Highway #4 in the north central portion of the County of Huron, and in the Maitland River watershed. Natural slope of the land affords drainage to the Blyth Brook which flows through the northern portion of the village.

There are two small industries and a feed mill located in or near the community and these along with retail outlets constitute the economy of the village.

Population in the 1964 Municipal Directory is listed as 745, and assessment is reported as \$ 609,000.

II WATER USES

1. Municipal Water Supply

A 140 gallon per minute pump discharges water from a 240 feet deep well to a 70,000 gallon wood stave surface reservoir. The system

serves 80% of the population through 225 services.

The OWRC records indicate that pollution of the water supply has occurred in the past, due in part to the nature of storage. Recommendations with respect to repairs to the reservoir have been made and the need for a regular sampling programme and a metering device have been pointed out. No action has been taken on either of these recommendations.

Most recent samples indicate that the supply is bacteriologically safe while containing a high iron concentration and excessive hardness.

Attempts are being made to purchase a used storage tank but no firm decision has been made as yet in this matter. An elevated tank with a capacity of 60,000-70,000 gallons is being sought and it is hoped this will provide added fire protection. Construction of a concrete reservoir has also been discussed.

2. Private Water Systems

Approximately 40-50 homes are still serviced by private well systems. The systems are known locally as Dear, Manning, Radford, McKay, and Blyth Dairy. Records available from the Huron County Health Unit show routine sampling on only the Manning system with satisfactory results for the past 14 months.

3. Recreational Uses

The Blyth Brook offers little in the way of recreational uses although children frequently make use of upstream portions for wading. Boating and fishing are not practised to any degree.

4. Agricultural Uses

The Blyth Brook originates in farmlands to the east of the Village in Morris Township. One mile east of the village no perceptible flow was noted and the brook was more in the nature of a swamp. Under these circumstances, one could assume that agricultural uses have little bearing on the condition of the water-course.

III WATER POLLUTION

1. Sanitary Waste Disposal

(a) Existing Conditions

The village has no sanitary sewers nor any means of sewage treatment. A series of four storm sewers exists to provide for surface and storm drainage.

Past reports indicate and this report bears out the fact that sanitary sewage is being discharged to the storm drains in considerable quantity. These drains, along with an industrial drain outlet from the United Dairy and Poultry Co-operative, empty into Blyth Brook in a half mile section east from Highway #4. The significance of these polluting wastes will be elaborated upon in the discussion on samples and sample analyses.

It should be noted that a second industrial outlet which served the Bainton Limited operation is no longer of significant concern with the removal of the firm to a location south and east of the village.

(b) Proposed Sewage Works

The Commission, has on several occasions in the past six years, urged village officials to undertake a sewage works programme. A proposal prepared by Proctor and Redfern, Consulting Engineers, in 1960 was submitted to the residents for approval. A referendum on the project was rejected in May of 1963. The project called for municipal sanitary sewers, a pumping station, forcemain, and a 19 acre lagoon.

Since the rejection of the above proposal Blyth Council appears to have taken no further action other than to request the Commission's assistance in eliminating wastes from the United Dairy and Poultry Co-operative operation. This matter is covered in a following section.

The 1964 council has not to this point entered into a discussion on the sewage works programme according to information received from the village clerk.

Refuse Disposal

Domestic and industrial refuse is picked up weekly by the municipality for deposit at a dumpsite located south-west of the village in Hullett Township. Refuse is burned weekly.

No watercourse is in the vicinity of the dumpsite.

3 Industrial Waste Disposal

Industrial waste discharges to the Blyth Brook have been a major source of pollution for the past 15 years. Two main

sources have been the cause for complaints namely Bainton Limited (wool pullers) and the United Dairy and Poultry Co-operative cheese factory.

The Bainton operation, for many years, was a matter of concern to both the village and this Commission. Wastes with a large wool fibre content, were discharged to the Creek through a private drain in a condition not acceptable by Commission standards. Mr. Bainton, the owner, moved the operation from the village earlier this year for a variety of reasons with the result that a considerable portion of the polluting wastes are no longer a problem.

The United Dairy and Poultry Co-operative plant has also been a large factor in the pollution of the Blyth Brook. The initial series of samples, taken July 15th, 1964, revealed a B.O.D. of 112 ppm. and a Membrane Filter Coliform count of 142 million per 100 millilitres. The significance of these figures will be elaborated on in the analysis of sample results. However, it should be noted, at this point, that these wastes constituted pollution far in excess of the OWRC standards. On July 20th of this year, the plant commenced operation of a spray irrigation system for waste water disposal. Further samples taken on August 13th and August 27th reveal that milk wastes are still entering the Blyth Brook through a cooling water drain from the plant. Difficulties have been experienced by the firm in maintaining the spray irrigation system but these are expected to be overcome in the near future.

4. Discussion of Sample Analyses

On July 15th, 1964, a series of samples was taken from the Blyth Brook and from sewer outlets discharging to the brook. Laboratory results of analyses of these samples are included in Table I which is appended to this report.

The OWRC objectives for surface waters in Ontario are listed as follows :-

5-Day B.O.D.....not greater than 4 ppm.
Membrane Filter Coliform Count.....not greater than 2400
organisms per 100 ml.

The objectives with respect to maximum limits in discharges from storm sewers, sewage treatment plants, and industries is 5 Day B.O.D. of not greater than 15 ppm.

Insofar as the Village of Blyth is concerned, the analyses of samples reveal severe degradation of the Blyth Brook in its passage through the municipality. (See samples 1 and 7). Wastes from each of the five drain outlets sampled indicate industrial and/or domestic pollution not in keeping with OWRC objectives. Of particular significance are samples # 2,3, and 6; sample #2 being industrial wastes from the U.D.P.C. creamery and samples 3 and 6 being municipal storm sewers. In the case of the latter two samples, the results are such that domestic sewage appears to be reaching these drains in considerable volume.

IV SUMMARY

A survey to determine the extent of pollution of watercourses in the Village of Blyth was undertaken on July 15, 1964. The results of this survey indicate that domestic and industrial wastes are contributing to severe pollution of the Blyth Brook in its passage through the village. These findings are similar to those established in previous surveys of the municipality although, it should be noted, that one of the previously reported industrial sources of pollution has been removed. Some improvement in the overall picture can be anticipated at such time as the second industrial source (U.D.P.C.) has overcome operating problems.

V RECOMMENDATIONS

It is recommended that :-

1. The council of the Village of Blyth be reminded of the continuing pollution of the Blyth Brook by domestic sewage. Further, that the council take steps to implement the sewage works programme recommended by this Commission in 1960.
2. The United Dairy and Poultry Co-operative management be requested to insure effective operation of the waste disposal facilities to prevent contamination of the watercourse by milk or other wastes.

All of which is respectfully submitted,

District Engineer :

A. B. Redekopp

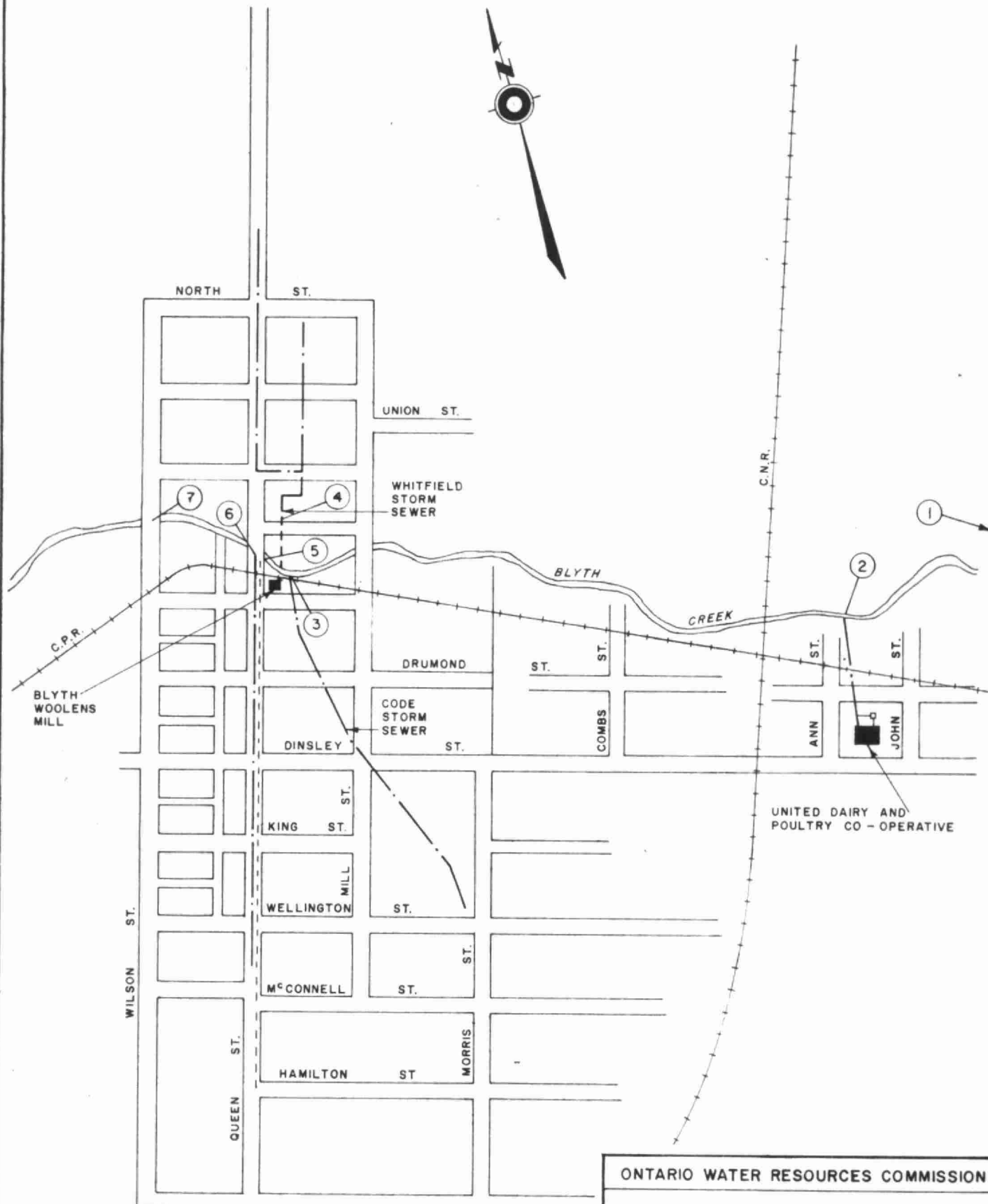
Approved by :

K. H. Sharpe, Director

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SEWAGE ANALYSIS
Village of Blyth
1964

<u>Date</u>	<u>Sample Pt. No.</u>	<u>Description</u>	<u>5-Day B.O.D.</u>	<u>Total</u>	<i>Solids</i>		<u>Coliforms per 100 ml.</u>	<u>Estimated Flow G.P.H.</u>
					<u>Susp.</u>	<u>Diss.</u>		
July 15	1	Blyth Brook - 500' up- stream from U.D.P.C. drain outlet.	0.9	334	8	326	6,000	-
" "	2	U.D.P.C. Drain outlet - effluent.	112	1610	446	1164	142,000,000	200
" "	3	Code Drain outlet effluent	19	658	24	634	7,700,000	250
" "	4	Whitfield Drain outlet effl.	16	592	27	575	23,000	300 - 400
" "	5	New Queen St. storm drain - effluent	20.	298	26	272	49,000	50
" "	6	Old Queen St. storm drain effluent	6.2	806	20	786	24,000,000	400 - 500
" "	7	Blyth Brook-opposite Wilson St.- West end of Village.	4.1	372	7	365	113,000	-



LEGEND

- — — — — STORM SEWER
- - - - - OPEN DITCH
- ⑤ - SAMPLING POINTS

ONTARIO WATER RESOURCES COMMISSION

VILLAGE OF BLYTH

MUNICIPAL POLLUTION SURVEY

SCALE: 1" = 50,000' (APPROX.)

DRAWN BY: A.R.S.

DATE: AUG. 1963

CHECKED BY: R.N.D.

DRAWING N°: 63-202